



REPORTER'S NOTEBOOK

Chief Google economist talks on data, statistics, and Google tools

Lecture focuses on using Google Trends, Correlate, Surveys



COURTESY OF UNIVERSITY OF CALIFORNIA, BERKELEY
Google Chief Economist, Hal Varian.

By Anthony Yu
STAFF REPORTER

Yesterday afternoon, the Undergraduate Economics Association hosted a lecture by Google's Chief Economist, Hal R. Varian '69, on "Predicting the Present with Search Engine Data."

Hal Varian, an MIT alum, taught at UC Berkeley for several decades before becoming Google's Chief Economist in 2010. He is one of the several influential voices in the emerging field of big data, particularly noted for saying in *The McKinsey Quarterly* that being a statistician would be "the sexy job" in the next decade. I thought attending the lecture would be a great opportunity for me as an economics student.

I arrived at the lecture hall about 10 minutes early, not expecting to see a giant crowd. However, by the time 4:30 rolled around, E51-345 had filled its capacity of 128 with standing room only. Although billed as an undergraduate event, it was clear that most attend-

ees were graduate students eager to learn more about applying "big data" to business. The lecture began with quick remarks from UEA President, Ting Mao '14 and a glowing introduction of Varian by economics lecturer Sara F. Ellison, who credited him for inspiring a new generation of information economists.

Varian's lecture focused on three Google Tools: Trends, Correlate, and Consumer Surveys. He began with light-hearted set of questions: "What day in the week receives the most searches about hangovers?" Apparently, searches about hangovers peak every Sunday with an outlier on Jan. 1, eliciting guilty chuckles from the audience. This laughter was even more pronounced when Varian highlighted that searches about vodka peak a day before searches about hangovers. He presented other statistics, including the peak in the search term "civil war"

Varian, Page 11

UA elections coming up next week!

Undergraduate Association election week begins at 9 a.m. on Monday, March 18, and students can vote online at vote.mit.edu until 11:59 p.m. Friday, March 23.

The Spring 2013 UA elections will fill the 2013-2014 UA President/Vice President positions and the Class Councils for each class. There are two tickets running for UAP/VP this year: Cory D. Hernandez '14/John Kongoletos '14 and Sidhanth P. Rao '14/Devin T. Cornish '14.

According to their platforms, Hernandez/Kongoletos — who have both had experience within the UA — cite "[restoring] trust in the UA" as their mission, saying that the UA is meant to be "an entity that provides a voice to undergraduates." Their vision includes recruitment and student engagement, and ensuring UA accountability based on those sources of input.

On the other hand, Rao/Cornish are marketing themselves as UA outsiders, indicating that "the sole function of the UA" is to ensure the success and happiness of every MIT student. Along those lines, they've broken their vision down into mutual support in the MIT community, student center renovations, and undergraduate education.

The Tech and the UA are co-hosting the annual UAP/VP debate at 7 p.m. this Thursday, March 14, on the first floor of the student center.

Platforms of the candidates running for UA President/Vice President and the Class Councils can be seen online at <http://elections.scripts.mit.edu/candidates/>. Check back in Friday's issue of *The Tech* for coverage on the UAP/VP debate and in-depth interviews with the candidates.

—Anne Cai

US Attorney General questioned on Swartz

U.S. Attorney General Eric H. Holder was questioned by Senator John Cornyn (R-Texas) last week over the prosecution of Aaron Swartz. At a Senate Judiciary Committee oversight hearing, Cornyn asserted that the penalties Swartz faced for mass downloading JSTOR articles via MIT's network were disproportionate to the magnitude of the crime.

"He was charged with crimes that would have carried a penalty of up to 35 years in prison and a million dollar fine. A superseding indictment which was filed would have upped both the prison time and the fines. I wrote a letter asking about that prosecution and raising questions of prosecutorial

zeal and, I would say, even misconduct," said Cornyn.

But Holder said Swartz was never really facing 35 years in prison and that three to six months was much more likely.

"[The] news reports about what he was facing was not consistent with what the interaction was between the government and Mr. Swartz," said Holder, who added that plea offers were made before and after the indictment, carrying penalties of at most six months.

"There was never an intention for him to go to jail for longer than

Swartz, Page 12

News Briefs

Racy wristbands

"That's a nice dress. It would look great on my floor."

At a "South by Southwest" party hosted by the MIT Media Lab in Austin, Texas this past Saturday, wristbands were distributed to party attendees with a variety of flirtatious messages.

"Do you wash your clothes with Windex? Cause I can see myself in your pants," said another.

The wristbands were apparently controversial, inciting the Media Lab to apologize on its blog yesterday. "They were offensive and in no way reflect the sentiments of the MIT Media Lab," read the blog post. "We don't like — and certainly don't want to support or disseminate — offensive messaging."

We appreciate those of you who noticed the wristbands and pointed them out to us; please accept our sincere apology."

The blog post mentions that the wristbands were distributed by the venue (The Parish Underground) and the organizers did not know about them beforehand.

SXSW is an entertainment and interactive technology conference that's held in Austin every year. It is a collaboration between the Media Lab, Knight Foundation, and Mozilla.

Ed Boyden wins brain prize

Ed Boyden, an associate professor

Prizes, Page 12



Samuel P. Heilbroner '13 performs a solo on the alto saxophone. The MIT Festival Jazz Ensemble, directed by Frederick Harris, celebrated its 50th anniversary of Jazz at MIT with "Homegrown for 50 Years!" on Friday, March 8, 2013.

IN SHORT

Nominations are open for the 2013 MIT Awards Convocation for outstanding contributions to the Institute. Nominations are due by Friday, March 15 at 5 p.m. at <http://awards.mit.edu/nominate>.

Pi Day is Thursday! MIT Regular Action admissions decisions will be available on Thursday beginning at 6:28 p.m. EST.

The Transportation Fair is Wednesday from 11 a.m. to 1:30

p.m. in the Stata Center. The theme this year is Safety for Pedestrians, Bicyclists, and Drivers.

TechCash is now accepted at Sebastian's Cafe. All TechCash purchases made in March have a 15 percent discount.

Applications for Public Service Center funded summer fellowships and internships are due March 21, at noon. More information can be found at <http://web.mit.edu/mitpsc/whatwedo/internshipsandfellowships/>.

A memorial for Aaron Swartz will be held today at 4 p.m. on the sixth floor of the Media Lab.

The 2013 CEE/CDO symposium "New Directions in Computation and Their Implications for Engineering" is happening Thursday. Wolfram Research founder and CEO Stephen Wolfram will speak in 34-401 from 5:15 to 6:30 p.m.

Send news information and tips to news@tech.mit.edu.

WHY ARE HUMANS SPECIAL?

Ask A-Theist, *The Tech*'s new column on worldviews.

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SECRET LIFE OF RESEARCHERS

On the suspense of doing literature reviews. CAMPUS LIFE, p. 10

EVALUATING 8.02X AND 8.02

On rigor and assessing the edX version of 8.02. LETTERS, p. 4



MIT-WELLESLEY RELAY FOR LIFE

See photos from this weekend's Relay For Life event.

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AN EMPHASIS ON STEM

High schools need to encourage students to continue in STEM fields. OPINION, p. 4

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Hedge fund manager found and jailed on fraud charges

FRANKFURT, Germany — Florian Homm, a flamboyant former hedge fund manager who spent the last five years in hiding, was arrested Friday in Italy and faced extradition to the United States on securities fraud charges, the FBI said.

Italian police arrested Homm, 53, at the Uffizi Gallery in Florence, the FBI said. Homm is accused of defrauding investors of at least \$200 million, the FBI said. The most serious of the four felony charges carry maximum sentences of 25 years in prison.

Homm was one of Germany's best-known financiers before he disappeared in 2007 as his portfolio of hedge funds, Absolute Capital Management Holdings, was collapsing.

Until then, Homm had been a symbol of predatory capitalism in Germany. In 2004, he bought 26 percent of Borussia Dortmund, a beloved but nearly bankrupt soccer team, and forced management changes. Homm seemed to relish his role — appearing on German talk shows or posing for photographs in front of his villa on the Spanish island of Majorca.

—Jack Ewing, The New York Times

Islamists kill 7 captives in Nigeria, a shift in tactics

DAKAR, Senegal — Radical Islamists in northern Nigeria have killed seven foreign construction workers who were kidnapped in February, a significant escalation of extremist violence in Nigeria's continuing jihadist insurgency.

The killings were announced Saturday by an obscure splinter group, Ansaru, and confirmed by European foreign ministries on Sunday. The seven — an Italian, a Greek, an Englishman, and four from the Middle East, including Lebanon — were seized on Feb. 16 from the compound of Setraco, a Lebanese construction company operating in Nigeria's Bauchi state, in a well-planned nighttime assault. A grainy photo released by the group showed a gunman standing by a number of corpses.

The deaths signal a shift in tactics by the radical Islamists who have been battling the Nigerian government for nearly four years in the country's impoverished north. The Islamist group Boko Haram has previously attacked, for the most part, officials and institutions associated with federal and local authorities, though plenty of civilians have been killed along the way.

—Adam Nossiter, The New York Times

Europe to ban cosmetics with animal-tested ingredients

BRUSSELS — EU regulators are expected to announce Monday a ban on the import and sale of cosmetics containing ingredients tested on animals and to pledge more efforts to push other parts of the world, like China, to accept alternatives.

The European Union banned animal testing of finished cosmetic products in 2004.

A second ban, on animal-tested ingredients, went into effect four years ago. But heavy lobbying by major cosmetics manufacturers resulted in an extension of the deadline for some tests for effects like allergies and cancer and for which there is still no substitute.

The ban, which will take effect immediately, "gives an important signal on the value that Europe attaches to animal welfare," Tonio Borg, the EU commissioner for health and consumer policy, said in the draft copy of a statement to be released Monday and seen by the International Herald Tribune.

The cosmetics company L'Oréal, which is based in France, said Friday that it would respect the ban and "no longer sell in Europe any finished product with an ingredient that was tested on animals" after Monday.

—James Kanter, The New York Times

WEATHER

Rain today and chilly end of week

By Allison A. Wing
STAFF METEOROLOGIST

The highly variable weather over the last week as we moved into meteorological spring is very characteristic of this transitional season; a pattern that will continue. Warm temperatures the last few days have melted most of the snow we received on Friday. Today should be even warmer, with highs reaching the mid 50°Fs, due to southerly winds and warm air advection ahead of an approaching cold front. Unfortunately, this approaching cold front also means rain today and tonight. The cold front will move across our region tonight, with the rain tapering off by daybreak tomorrow. Tomorrow, temperatures will continue to be mild before the colder air behind the front moves in to make for a chilly end to the week.

Extended Forecast

Today: Rain. High 55°F (13°C). Southerly winds at 10–15 mph.
Tonight: Low 40°F (4°C). Southerly winds at 10–15 mph, shifting to northwesterly.
Tomorrow: Partly sunny. High 50°F (10°C). Low 32°F (0°C). Northwesterly winds at 8–12 mph.
Thursday: Partly sunny. High 43°F (6°C). Low 25°F (-4°C). Westerly winds at 10–15 mph.

Family believes India rape suspect was killed

By Heather Timmons
and Niharika Mandhana
THE NEW YORK TIMES

NEW DELHI — The family of a suspect in a fatal gang rape here last December who was found dead Monday morning in his jail cell said they believed he was killed. The case had set off an uproar across India.

The man, Ram Singh, was accused of being the driver of a bus in which a 23-year-old woman was beaten and raped. The woman suffered severe internal injuries from being sexually assaulted with an iron rod. Singh was found at 5:45 a.m. hanging from a bedsheets rope suspended from a ceiling grill, jail officials said.

An investigation was under way, the officials said.

"It is a major lapse in security — certainly it is not a small incident," India's home minister, Sushil Kumar Shinde, said at a news conference in New Delhi.

But Singh's family members and his lawyer said that he would not have been able to tie a noose, because his right arm had been seri-

ously damaged in a bus accident. In addition, they said, he shared his cell in the Tihar prison complex with several inmates, making it difficult to believe he could have hanged himself without being noticed.

"I suspect there is foul play," the lawyer, V.K. Anand, said. "There were no circumstances for committing suicide. His mental state was stable, the trial was going well, he was meeting with his family. I can't understand why he would commit suicide."

Some family members said Singh had been abused in jail.

"It is not suicide, he has been hanged by the police," Singh's father, Mangilal, said in an interview. He said that his son had told him on Friday that the police were beating him in jail and that he was being pressured to change his lawyer.

Earlier Monday, the father told the television channel NewsX that Ram Singh had said that other inmates had raped him.

Singh's brother, Mukesh, is one of the other four men accused in the case, which is being tried in a special "fast track" court in South Delhi set

up for sexual assault cases. The creation of such courts was a direct result of the uproar over the fatal rape in December, as thousands of people across India, long angered by selective law enforcement and endemic corruption, vented their outrage over failures in preventing and prosecuting crimes against women.

A sixth defendant, a teenager, is being tried as a juvenile. The four men face 13 charges, including murder — which could carry the death penalty — rape, and robbery.

Singh, whose job was to transport schoolchildren in the bus, which later became the site of the attack, was the first suspect the police apprehended after the attack was reported.

His confession to the police led them to the others, who were accused and helped officers piece together what had happened that night.

According to the police charge sheet, a group of drunken men, looking for victims to harass, tricked the young woman and a male friend into getting on the bus, attacked them, and then stripped off their clothes and left them on a highway.

Hungary tests the European Union's norms

By Dan Bilefsky
THE NEW YORK TIMES

For Hungary, still seeking national accord on what constitutes democracy, and for Europe, still uncertain how to treat governments deemed to have strayed from European Union norms, Monday produced a symbolic moment in the annals of protecting civil rights.

On a state visit to Germany, President Janos Ader of Hungary visited a prison in Berlin where East Germany's dreaded secret police, the Stasi, held thousands of political prisoners, including some of the harshest critics of the now defunct Communist regime.

Back in Hungary, lawmakers from Prime Minister Viktor Orban's Fidesz party and its small ally, the Christian Democrats, passed a lengthy amendment to the constitution that critics, including hu-

man rights activists, the Council of Europe, the EU and the United States, fear could undermine the judiciary, silence criticism, and threaten the checks and balances of democratic government.

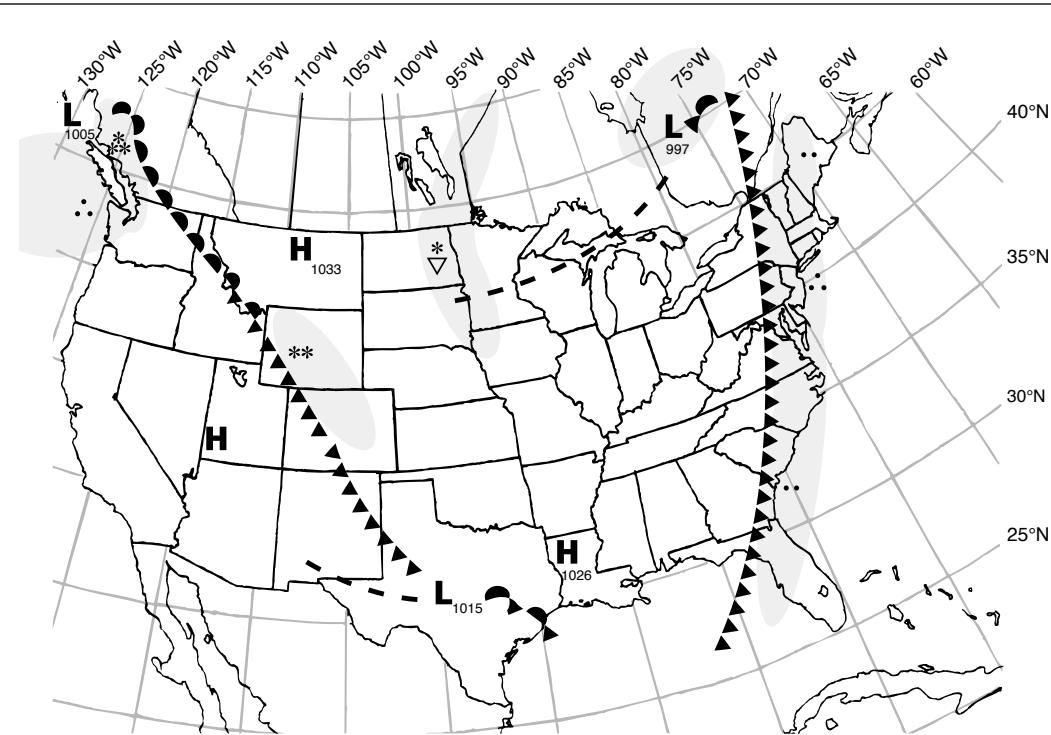
"We are not yet North Korea, but this amendment is extremely alarming because it removes constitutional control and checks over the Legislature," said Peter Hack, a leading professor of constitutional law at ELTE University in Budapest. "It is a bald and dangerous power grab."

While even the government's staunchest critics acknowledge that Hungary, an EU member, has put communism far behind it, thousands took to the streets of Budapest over the weekend to protest the changes, and the opposition Socialists boycotted the vote. Constitutional experts said the amendment, passed in the 386-seat Parliament 265-11, with

33 abstentions, will allow the government to reintroduce measures rejected by the constitutional court over the last 18 months.

These include a law requiring students who received state scholarships to stay in Hungary or pay them back if they leave; a ban on political advertising in private media; and a law allowing local authorities, in the name of public order, to fine or jail homeless people living on the street.

The passing of the amendment comes amid growing concerns that the center-right government of Orban, which has a two-thirds majority in Parliament and came to power in 2010, is trying to tighten its grip, including in the judiciary, the media, the central bank, education, and even cultural life. It has laid bare the limits of the European Union in calling to account member states it fears have transgressed its democratic norms.



Situation for Noon Eastern Time, Tuesday, March 12, 2013

Weather Systems	Weather Fronts	Precipitation Symbols	Other Symbols
H High Pressure	— Trough	Snow Rain	Fog
L Low Pressure	— Warm Front	Showers ▽ △	Thunderstorm
§ Hurricane	▲ Cold Front	Light *	Haze
	◆ Stationary Front	Moderate ** ..	
		Heavy *** ::	

Compiled by MIT Meteorology Staff and *The Tech*

TUESDAY, MARCH 12, 2013

North Korea says it has nullified 1953 armistice

By Choe Sang-Hun
THE NEW YORK TIMES

SEOUL, South Korea — North Korea declared the 1953 Korean War armistice nullified on Monday, following through on a longstanding threat that it renewed last week amid rising tensions with South Korea.

The move comes as the United States and South Korea are in the midst of two months of joint military drills, which started on March 1, and on Monday they began another planned joint military exercise that involved bringing 2,500 troops from the United States. Stirring up a sense of crisis among its impoverished people, North Korea was also staging an unusually vigorous military drill of its own, South Korean officials said.

However, there were no signs of hostility along the border between the two Koreas. South Korean officials said they were increasing their vigilance amid fears that North Korea might use the U.S.-South Korean military drills and a fresh round of U.N. sanctions as an excuse to create an armed skirmish

against the South.

"We must deal strongly with a North Korean provocation," the South's new president, Park Geun-hye, said during her first Cabinet meeting Monday. She called for the protection of people living on a border island that was attacked by North Korean artillery in 2010 and of South Koreans working in a joint industrial park in the North Korean border city of Gaesong.

But she also said her two-week-old government would work to build "trust" with North Korea.

During the Cabinet meeting, Park also criticized senior military officers for playing golf last weekend amid the tensions with the North. Her office was investigating news reports that a military golf course in Seoul was crowded with senior army officers, including generals, on Saturday and Sunday.

Kim Min-seok, spokesman of the Defense Ministry, admitted that some officers played golf on the weekend. But he added that none of them served in sensitive commanding posts.

The exchange of bellicose lan-

guage between the two Koreas has recently intensified, recalling the level of tension after the North Korean artillery barrage in 2010, which left four South Koreans dead. After the United Nations imposed the new sanctions as a penalty for the North's third nuclear test, on Feb. 12, the North said that it would nullify the armistice and that it was being threatened with a pre-emptive nuclear strike that it might itself pre-empt with nuclear strikes on Washington and Seoul. South Korea responded that in the case of such attacks, the North Korean government would be "erased from the Earth."

On Monday, the North's official Korean Central News Agency said that the armistice had been nullified. The North followed through on another threat as well, cutting off a Red Cross hot line that the two Koreas used to discuss humanitarian issues.

However, the two continued to operate channels of communication to allow hundreds of South Koreans to commute to the Gaesong industrial complex, one of the last remaining symbols of inter-Korean cooperation.

Drone strike reported in Pakistan tribal region

**By Ismail Khan
and Declan Walsh**
THE NEW YORK TIMES

PESHAWAR, Pakistan — Two people suspected of being militants were killed Sunday morning in the volatile North Waziristan tribal region by what Pakistani and Taliban officials said was a drone strike.

If confirmed, the attack could be the first U.S. strike in Waziristan in two months — one of the longest operational pauses since the drone campaign started in earnest in mid-2008.

U.S. and Pakistani officials are at odds over whether two previous attacks this year were U.S. drone strikes or some other kind of violence.

Two Pakistani officials, one in Peshawar and another in the tribal belt, said that missiles fired from a drone operated by the CIA hit the two people in the village of Degan, about 20 miles from Mi-

ram Shah, the main town in North Waziristan.

"Details are sketchy. We don't know the identity of those killed, and our local contacts say the bodies were unrecognizable and beyond recognition," the senior official in Peshawar said, speaking on customary condition of anonymity. "We don't know if they were locals or foreign militants."

That official said the two people who were killed had been traveling on a motorcycle when the missile struck, but the official in the tribal belt said they were on horseback. There were some reports that three people were killed in the attack.

A Taliban spokesman in Miram Shah confirmed that two militants on a motorcycle had been killed in a drone strike. "I cannot confirm their nationality and group affiliation at the moment," the spokesman said by telephone.

The timing and nature of the previous two reported strikes in Waziristan have become a matter

of controversy between Pakistan and the United States.

Last week, U.S. officials denied any involvement in two strikes that Pakistani officials and the news media had reported as CIA drone strikes, on Feb. 6 and Feb. 8. Afterward, a U.S. official quoted in The New York Times said that at least one of the attacks could have been a conventional airstrike by the Pakistani military. That claim was rejected by Pakistani officials.

The last drone attack that was recognized by both Pakistan and the United States, albeit unofficially, was on Jan. 10.

Separately, the police in Lahore said they had arrested 150 men in connection with an attack on a Christian colony on Saturday in which about 170 homes and two churches were burned.

The attack, which involved several thousand people, was spurred by accusations of blasphemy against a Christian sanitation worker earlier in that week.

Iran blocks way to bypass Internet filtering system

By Thomas Erdbrink
THE NEW YORK TIMES

TEHRAN, Iran — Iran's powerful Ministry of Information and Communications Technology has blocked the most popular software used by millions of Iranians to bypass an elaborate official Internet filtering system, stepping up a campaign to gain more control over the way Iranians use the Internet.

As of Thursday, a collection of illegal virtual private networks, or VPNs, was successfully closed off by the ministry, making visits to websites deemed immoral or politically dangerous — like Facebook and Whitehouse.gov — nearly impossible.

Popular mobile applications like Viber, for free phone calls, and WhatsApp, for free text messaging service, have also been experiencing problems.

People trying to visit illegal websites are being directed to a page on

which users are encouraged to report illegal use of the Internet. This page, Peyvandha.ir, also explains in Persian that websites that promote "debauchery, boozing, pornography, the sharing of pictures, and advocating ideas against religion" are forbidden.

The VPNs helped users to go online through foreign-based servers, and visit websites anonymously and unrestricted. While illegal in Iran, the software, which requires usernames and passwords, has been widely available in the country.

Industry insiders say that hardware to block the VPNs was installed in the Ministry of Information and Communication Technology and its regional centers several months ago, and that after several test periods Iran now has the ability to control the software when used in Iran.

In recent years, Iran's leaders have been labeling foreign websites

and social media networks with increasing frequency as tools operated by foreign intelligence agencies. While several Iranian political figures, among them the supreme leader, Ayatollah Ali Khamenei, have Facebook pages, the authorities say the pages were created by fans.

While the Ministry of Information and Communication Technology executes Iran's elaborate filtering policies, the National Center for Cyberspace, established a year ago as the Supreme Council for Cyberspace, decides which websites should be blocked.

Recognizing, however, that unfettered access to the Internet is essential for doing business, conducting research, and other everyday activities, the National Center for Cyberspace last month started offering its own, state-controlled VPN software with the proviso that users promise not to visit sites deemed illegal.

US demands that China end hacking and set cyber rules

WASHINGTON — The Obama administration demanded Monday that China take steps to stop the widespread hacking of U.S. government and corporate computer networks and that it engage in a dialogue to set standards for security in cyberspace.

The demands, laid out in a speech by President Barack Obama's national security adviser, Thomas E. Donilon, represent the first direct response by the White House to a raft of attacks on U.S. computer networks, many of which appear to have originated with the People's Liberation Army.

"U.S. businesses are speaking out about their serious concerns about sophisticated, targeted theft of confidential business information and proprietary technologies through cyber-intrusions emanating from China on an unprecedented scale," Donilon said in remarks prepared for delivery to the Asia Society in New York.

He also announced that the Treasury Department would impose sanctions on a North Korean bank that specializes in foreign-exchange transactions — ratcheting up the pressure on the North Korean government on the day that Pyongyang announced it would no longer abide by the 1953 armistice that halted the Korean War.

—Mark Landler, *The New York Times*

Ukrainian blogger escapes her Syrian captors

MOSCOW — A Ukrainian blogger and journalist captured by a Syrian rebel group some five months ago announced that she had escaped her captors on Monday but offered little detail, telling a Russian radio station that she "just walked out and left."

A spokesman for Ukraine's Foreign Ministry confirmed that the blogger, Anhar Kochneva, was free, but offered no account of how that had come about, saying she had contacted the Ukrainian Embassy in Damascus. Kochneva, who worked as a fixer for Russian journalists in Syria, was captured near the city of Homs in October, reportedly by a group from the Free Syrian Army.

In an interview with the radio station Business FM, Kochneva said she "just walked out and left, and in about 15 kilometers I met some normal people who helped me cross over" to government-controlled territory.

Later, she told RIA-Novosti, a news agency, that she had been held in a suburb of Homs called al-Bueida, and was the captive of the head of the local military council of the Free Syrian Army.

On her blog, Kochneva was more mysterious, writing: "Your Alice has returned from behind the looking-glass. Details later."

—Ellen Barry, *The New York Times*

Thousands of dead pigs found in Chinese river

BEIJING — More than 2,800 dead pigs have been found in a major river that flows through Shanghai, igniting fears among city residents of contaminated tap water, according to state news media reports Monday.

Officials were trying to determine who had dumped the carcasses into the river, the Huangpu, which slices through the heart of Shanghai. Some reports blamed farmers. Officials were seeking to track the source of the pigs from marks on their ears, and a preliminary inquiry found that the dumping occurred in Zhejiang province, which is south of Shanghai and upstream on the Huangpu.

Photographs of the carcasses floating in the river were circulating widely on the Internet. One photograph on the website of Global Times showed sanitation workers in orange vests and blue uniforms lifting carcasses from Hengliaoing Creek with long wooden poles.

An accompanying report, citing a Shanghai news website, said the first carcasses were discovered Thursday near a water treatment plant in an area that is a protected water resource. Their numbers increased quickly over the weekend, and the tally is expected to grow further as search barges return to Shanghai.

Shanghai Waterworks, which manages the city's tap water, said Sunday night that the water still met drinking standards, according to Xinhua, the state news agency. Shanghai officials said the group was checking the water hourly.

—Edward Wong, *The New York Times*

Ovarian cancer study finds widespread flaws in treatment

Most women with ovarian cancer receive inadequate care and miss out on treatments that could add a year or more to their lives, a new study has found.

The results highlight what many experts say is a neglected problem: widespread, persistent flaws in the care of women with this disease, which kills 15,000 a year in the United States. About 22,000 new cases are diagnosed annually, most of them discovered at an advanced stage and needing aggressive treatment. Worldwide, there are about 200,000 new cases a year.

Cancer specialists around the country say the main reason for the poor care is that most women are treated by doctors and hospitals that see few cases of the disease and lack expertise in the complex surgery and chemotherapy that can prolong life.

"If we could just make sure that women get to the people who are trained to take care of them, the impact would be much greater than that of any new chemotherapy drug or biological agent," said Dr. Robert E. Bristow, the director of gynecologic oncology at the University of California, Irvine, and lead author of the new study presented on Monday at a meeting of the Society of Gynecologic Oncology in Los Angeles.

Dr. Barbara A. Goff, a professor of gynecologic oncology at the University of Washington, in Seattle, who was not part of Bristow's study, said the problem with ovarian cancer care was clear: "We're not making the most use of things that we know work well."

—Denise Grady, *The New York Times*

which users are encouraged to report illegal use of the Internet. This page, Peyvandha.ir, also explains in Persian that websites that promote "debauchery, boozing, pornography, the sharing of pictures, and advocating ideas against religion" are forbidden.

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OPINION OPINION OPINION OPINION OPINION



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The Tech (ISSN 0148-9607) is published on Tuesdays and Fridays during the academic year (except during MIT vacations). Wednesdays during January, and monthly during the summer by The Tech, Room W20-483, 84 Massachusetts Avenue, Cambridge, Mass. 02139. Subscriptions are \$50.00 per year (third class). POSTMASTER: Please send all address changes to our mailing address: The Tech, P.O. Box 397029, Cambridge, Mass. 02139-7029. TELEPHONE: Editorial: (617) 253-1541. Business: (617) 258-8324. Facsimile: (617) 258-8226. Advertising subscription, and typesetting rates available. Entire contents © 2013 The Tech. Printed on recycled paper by Mass Web Printing Company.

LETTERS TO THE EDITOR

8.02x is not nearly as rigorous as 8.02

I am writing this in response to the article by Tea Dorminy, after I read the Letters to the Editor in the March 8 issue. Let me start by saying that I praise edX to the sky even though the real breakthrough was made in 2001 by MIT when OCW was invented. This was comparable to the invention of the printing press around 1450. EdX was a logical consequence of OCW. It was obvious to me as early as 2004 that sooner or later edX-like organizations would pop up.

My 8.02x course is now online (37,700 registered). There are three midterm exams (together 45 percent course credit) and 1 final exam (30 percent course credit). Thus the four exams count for 75 percent of course credit. The exams in 8.02 and 8.02x are equally rigorous. Yet there is a huge difference in the way the exams are taken.

Exams at MIT are proctored. MIT students have to take each of the three midterm exams in 50 minutes, closed book; notes and calculators are not allowed. The final is three hours with the same restrictions.

People on 8.02x get two (maybe three) days for each midterm exam (also for the final exam); two days is about 60 times lon-

ger than 50 minutes. In addition, the 8.02x exams are open book, notes are allowed, the students can search the web with their laptops, they can look up the solutions of similar problems in previous problem sets including those on OCW, they can watch the lectures again and they can get help from outsiders. Compare this with the restrictions that were imposed on my 8.02 students. The difference is night and day.

Clearly we have a long way to go before 8.02x is as rigorous as 8.02 and that will also be the case for my 8.01x course, which will go online in September.

Walter Lewin

Department of Physics Professor Emeritus

Encouraging students to pursue STEM High schools need to do more

By Ryan Normandin

STAFF COLUMNIST

Did you know that only six percent of high school seniors will get a bachelors degree in a science, technology, engineering, or math (STEM) field? At the same time, while many economic sectors are stagnant, STEM job openings will likely skyrocket over the next several decades. While so many are still looking for work, the U.S. is not going to be able to fill these openings. While only six percent of U.S. graduates have a degree in a STEM field, 47 percent of Chinese graduates do. There is no question that the United States is falling behind when it comes to STEM education. So why are our students so reluctant to pursue these types of degrees, and what can we do to fix the problem?

While we are able to track nationally how many students earn STEM degrees, most high schools have no way of knowing how their individual graduates are doing.

Unfortunately, our understanding of the problem is poor. We might gain a better understanding by comparing high schools that have a high rate of STEM majors among their graduates to those that do not. We can then compare their methods and gain some insight into what policies would encourage students to pursue STEM degrees. While we are able to track nationally how many students earn STEM degrees, most high schools have no way of knowing how their individual

graduates are doing. Many high schools' knowledge of their students' performance ends when those students walk across the stage at graduation.

Such a problem extends beyond purely the issue of STEM; with the new focus of graduating students from high school who are "college and career ready," the only metric we have to measure that is often how many students are going to college. This says nothing about how ready students are for higher education. The truly valuable information comes after students begin their post-secondary careers. How many students drop out of college? How many graduate within four years? Five years? How many switch from a STEM field to a different area? How many go on to graduate school? How many manage to keep a job if they don't go to college? All of these questions have answers at a national level, but few high schools are monitoring the answers to these questions at a local level.

Individual high schools need to do a better job of monitoring this information. Imagine how powerful it would be for every high school in the country to have data on how well their students are doing after graduation. With the rise of the internet and the rapid integration of technology into the classroom, there is no longer any excuse for not monitoring the progress of high school graduates at a local level.

One method of doing this would be to integrate such feedback capabilities into high school alumni networks. High school alumni networks are incredibly valuable in their own right; giving high school students access to a large number of accessible adults who are in college or working in jobs is a powerful tool to inform a student when considering future options. Such a network can also be used by the faculty if, say, a calculus teacher wants to have an engineer come in and talk about how he uses calculus in his job.

All that teacher would have to do in a well-built alumni network is log on to the website, search for graduates who majored in or are employed in engineering, and voila! Contact information appears and the timeless question of, "When are we ever going to use this?" is answered for students in that class.

Let's imagine how such a system might work. When entering high school, students would create a student account on the network, connecting them to all the students who have graduated before them and giving them access to the kind of individualized college and career advice which most guidance departments could only dream of having the time to give. Upon graduation, students would input information into their newly upgraded "alumni" profile such as which college they are attending in the fall, what their intended major is, and perhaps which classes they took while at the high school. A year later, when the alumni are completing their first year of college, their account will send them an email (or many) and ask them to update their information. At the end of every year, this process will repeat, and students will additionally have the option of editing their profile at any point during the year. High school administrators would now have access to a veritable goldmine of information regarding how well their students are performing. Further down the road, they can even look at what kinds of careers their graduates are embracing. Such information would improve and tailor the delivery of a high-quality, 21st century education.

Many colleges already have similar systems. The model already exists, the technology already exists, and the desire to ensure that every high school graduate succeeds certainly exists. By constructing a basic alumni network, or leveraging one that is already in use, individual high schools can take the lead in solving a national problem.



OPINION POLICY

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Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

Letters to the editor, columns, and editorial cartoons are written by individuals and represent the opinion of the author, not necessarily that of the newspaper. Electronic submissions are encouraged and should be sent to letters@tech.mit.edu. Hard copy submissions should be addressed to *The Tech*, P.O. Box 397029, Cambridge, Mass. 02139-7029, or sent by interdepartmental mail to Room W20-483. All submissions are due by 4:30 p.m. two days before the date of publication.

Letters, columns, and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or

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Guest columns are opinion articles submitted by members of the MIT or local community.

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IN BETWEEN HER TWO JOBS, AN AVERAGE AMERICAN TAKES A MOMENT TO CELEBRATE the DOW HITTING A RECORD HIGH.

Fill in the blank:

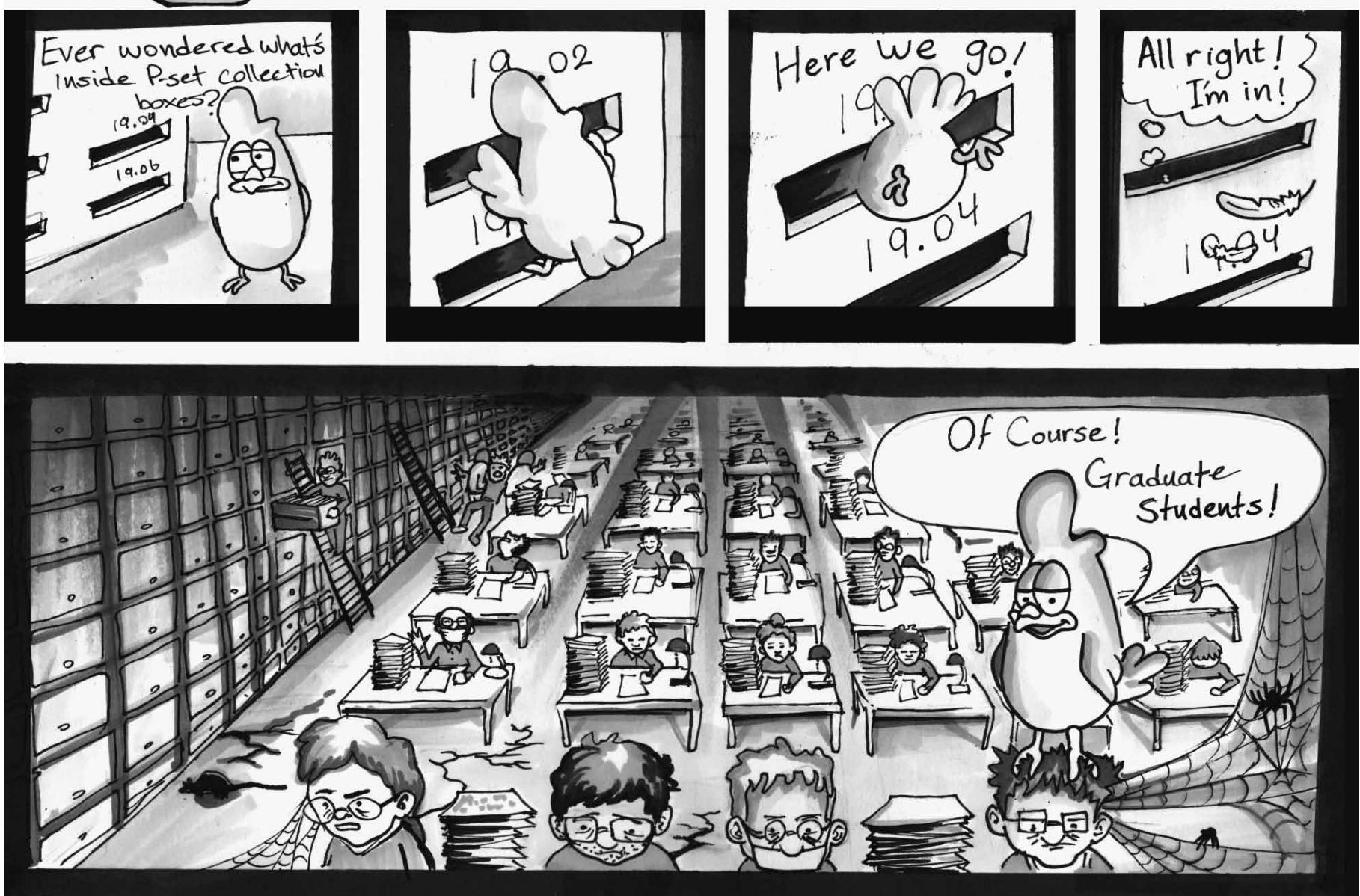
Dining at MIT is _____.

The Tech will be running a survey about dining at MIT soon. Send suggestions or topics you want covered to dining@tt.mit.edu.

OPINION OPINION OPINION OPINION OPINION

FUN FUN FUN FUN FUN FUN FUN FUN

Pigeon Comics



© 2013 Zaid Zayyad and Hesham Zaini



Saturday Stumper by Lester Ruff

Solution, page 12

ACROSS

- 1 Makes into bread
- 7 Where Michael J. Fox is from
- 13 Nest-egg option
- 14 Trickster's activity
- 16 Breadmaker, perhaps
- 17 Where Michael J. Fox is from
- 18 Milling by-product
- 19 Memo header, maybe
- 21 Move around
- 22 Front of overalls
- 23 Square one, so to speak
- 27 Fire starter
- 28 "Yes"
- 29 It may be over your head
- 30 Pass easily
- 31 Server's suggestion
- 33 Late
- 35 Hard to see
- 36 What Freud called das Ich
- 37 Rug rats
- 41 Filled (with)

45 Essence of many a punch line

46 Comparatively lively

48 __ minérale

49 Distress

50 Baby Ruth sister brand

51 Soothe, perhaps

52 Mogul

54 Anagram of 35 Across

55 Word after country or sea

56 Decoy

59 Ancient angler

62 Commiserative comment

63 Buyout hopefuls

64 Paper

65 Boots

DOWN

1 Place to say "Olé!"

2 "Olé!"

3 Area a guard might cover

4 __ Way (Sinatra biography)

5 Golden

6 Wells Fargo's HQ

7 Drink with ginger

8 MapQuest owner

9 Apprehend

10 Ground things

11 Sleaze

12 Ohio college

13 Some wedding officials

15 January birthstone

20 Squawk

23 Pastoral Symphony movement

24 It can go 0-to-60 in three seconds

25 Host's hire

26 Rubik's homeland

32 When e.e. cummings was interned

34 Marker

37 Plenty of nothing

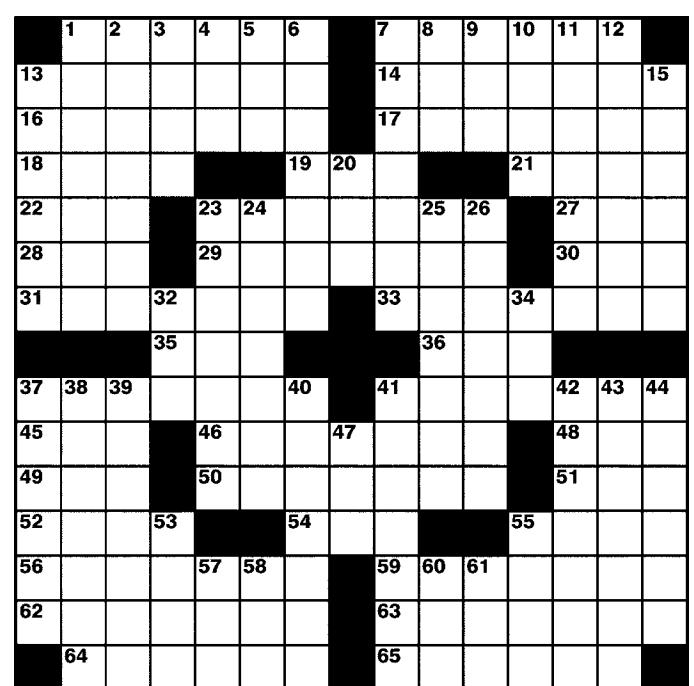
38 Subway alternative

39 Open

40 Mercury and Saturn

41 Great delicacy

42 Quiz Show sponsor



43 Trucking companies

44 White truffles, for example

47 Backed bench

53 Inflame

55 Dispense, with "out"

57 Runner who ran the 2012 Olympics

58 It means "most"

60 Party dress

61 Dickensian narrator

Least Action Principle

by Amanda Aparicio



S M B C
SATURDAY MORNING BREAKFAST CEREAL
BY ZACH WEINER
[2905]



by Jorge Cham



Sudoku

Solution, page 12

	8				4	9		1
	7			1		5		
	1				4	3		
1	4		2					6
			3	1				
8				6		9	7	
	6	7				4		
	1		3			8		
2		8	7					1

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Techdoku

Solution, page 12

2-		4x	6x	10x
12x			60x	
3		2		24x
10+	20+		12+	
			12x	12x
		5x		

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.



Jeanne M. Yu '13 performs with Syncopasian, one of MIT's co-ed a cappella groups Saturday evening.



Students in ADT, the Asian Dance Team, perform a traditional Chinese dance.



Royal K. Morris '15 performs with the MIT Chorallaries.

RELAY FOR LIFE

The American Cancer Society Relay For Life is an overnight fundraising event that brings together 3.5 million people across the country, to raise cancer awareness and funds for research, advocacy efforts, education, and patient service programs. It serves as a celebration for cancer survivors, a memorial for loved ones lost, and a community rally to fight cancer. The MIT-Wellesley Relay for Life took place this Saturday at Johnson Track from 6 p.m. to 6 a.m. Sunday morning, with team activities and performances by MIT and Wellesley student groups, as well as a celebration of those affected by cancer — survivors, caretakers, friends, family, and individuals currently fighting the disease.



One of the many fundraising booths at the Relay for Life event.



Participants in Relay for Life warm up for the group Zumba exercise Saturday evening on Johnson Track. The event ran from 6 p.m. Saturday evening to 6 a.m. Sunday morning. For more photos.



Members of Mocha Moves perform during the Relay event on Johnson Track.



Relay participants dance in a group Zumba exercise, one of the team activities that occurred during the night.

THE SECRET LIFE OF RESEARCHERS

The emotional rollercoaster of literature review

As suspenseful and terrifying as reading a horror novel

By Emily A. Moberg
STAFF WRITER

Imagine this: you have a brilliant idea, a question that no one has ever dared asked, a new way to study the cosmos, a groundbreaking theory.

Well, it's probably brilliant and groundbreaking, unless someone else already did it.

Enter the literature review. Literature reviews are both exciting and terrifying. Science is all about building on the shoulders of giants, so figuring out how and what the great minds before you did can be exhilarating. I always learn so much in the process and think about new ways to approach problems. Sometimes I find an easier way to approach something or an idea for a better question to ask. The literature

is the compendium of scientific progress, and I love taking part in the sacred tradition of reviewing it as part of the scientific process.

However, once I have my heart set on a question — and the fact that I am going to be the one to solve it — it can become a scary process too. Searching the literature can lead to great stuff — stuff that suggests why my question is important, stuff that helps push my work forward — but it can also lead to uncovering stuff that suggests your question has already been answered or your method is deeply flawed (there is a PhD Comic that describes the sinking moment when you've found out someone has already done your thesis — <http://www.phdcomics.com/comics.php?f=1506>).

For one problem I worked on, it start-

ed innocently. I wanted to find out how to measure the volume of complicated planktonic shapes. I read through paper after paper, tried new search terms, looked through journals far outside my comfort zone, and came up with zilch. After a while, I decided to start working on a solution myself. At first, it was half and half — I worked on my own solution and checked back in the meantime to see if there was an off-the-shelf solution I had missed somehow. However, as time passed, I spent more time on my solution and became more invested and excited about my approach. And overnight, searching the literature took on this new pallor; I was at once desperately trying to find the paper that already did it, but secretly hoping against hope that it didn't exist.

As time went on and we prepped it for publication, I was almost filled with dread to keep on searching. What if a new paper had just come out and they'd already done the same thing? Would I really want to know? But as a scientist, as much as it might hurt, my answer is always yes. In the end, I never ended up finding anyone who had already approached the problem like I did, and only yesterday I met someone who recognized my name because they used my method (I promise I didn't do a dance of joy), but the experience reminded me of how hard it is to be objective as a scientist.

So, the moral of the story is — when you see a graduate student reading papers and looking sad — try to be sympathetic. It's much more difficult than it looks!

ASK A-THEIST

Why are humans so special?

If they exist, why aren't other intelligent life forms special too?

By Aaron Scheinberg and Stephanie Lam

Ask A-theist is a new column by Aaron Scheinberg, an atheist, and Stephanie Lam, a Christian, which uses contrasting worldviews to explore questions and misconceptions about philosophy and religion. This week, Stephanie chose a question from your lovely submissions. Send us the burning questions you have always wanted answered by an atheist or Christian (or both), and we'll tackle them!

Q: Why are humans so special? If there are other intelligent life forms or conscious beings in the universe, why aren't they special, too?

Stephanie's answer:

Every worldview has a starting point — how you view the creation of this world will influence where you assign "special" status.

In a purely materialistic worldview, all life is the product of random impersonal evolutionary forces. "Specialness" is nothing more than an arbitrary preference. We won the genetic lottery in our assortment of traits — such as intelligence and tool-making — that made us one of the most powerful species on the planet. Maybe that makes us special?

In the Christian worldview, God created the world, the plants, the animals, everything. But humans, especially, were created in His own image. That is what makes humans so special, not their intelligence, consciousness, morality, creativity, or any other quality we often point to as unique to being human. Rather than a mark of superiority, these are reflections of the good character of the creator God. In other words, humans did nothing to earn this special standing before God, they were made that way. It was something God bestowed in his sovereignty to all humans, even unlikable ones.

What about aliens? I'm skeptical they exist, but fundamentally, I don't know. The Bible is unapologetically anthropocentric in its purpose and its account of the relationship between God and man — written for men, by men, inspired by God. But there is an intriguing quote from Jesus in the Bible: "And I have other sheep that are not of this fold. I must bring them also, and they will listen to my voice. So there will be one flock, one shepherd." Is he talking about non-Jews? Yeah. Aliens too? Why not?

If they existed, aliens would only be alien to us. God is the creator of the entire universe. Alien intelligence might be a clue that God has stamped his image on the species, but ultimately it is the species' relationship to the creator, not external traits alone, that make it "special". Regardless, from what God has made known to us, he loves, values and provides for all his creations, special or not. As his image-bearers, humans are accountable to God to do likewise, treating all his species with the highest dignity and respect.

Have a question? Submit it to worldview@the-tech.mit.edu or anonymously at <http://worldview.mit.edu>.

Aaron's response:

Do we really decide which life forms we value as "special" by looking at the creation of the world, as Stephanie says?

Of course humans aren't to be valued because they are the dominant species that "won" evolution. That's not how evolution works: we didn't "win" evolution more than any other species alive today. No, I value people not for where their ancestors came from, but for what they are. That's far from arbitrary.

In practice, we all determine our relationships with other life forms in the same way. By interacting with them, be they aliens, chickens, or Bostonians, we come to understand them. From there, we appreciate and value them, and hopefully diminish our egotistical sense of specialness.

In other words, it is our experiences that change what we consider worthy of particular value. Whether you believe in a god or not, there is no religious component to this process. The Bible doesn't change. If you're Christian, you could insist that your experience changed your interpretation of the Bible, which then changed your values — but you'd have to wonder, why the extra step?

If humans are special because a creation myth tells us so, I am concerned. Stephanie says that being made in Yahweh's image doesn't refer to intelligence, consciousness, or any other physically manifesting trait. All we supposedly know is that humans have it and animals don't.

That leads us to an uncomfortable and eerily familiar template: based on origins in ancient history, one group has a "specialness" trait, but another group lacks that trait and is thus less valued. The trait itself is beyond our capability of identifying objectively, but luckily is associated with something we already "know" to be a marker of that distinction.

There is a danger of complacency when crediting our values to an unchanging book. When we do meet extraterrestrials, will we use our biblical mark of specialness, our homo sapiency, to determine that we are to be more valued than them? Perhaps that we should have "dominion" over them, as we're told we inherently deserve over other animals? Burn them as offerings, the way Yahweh traditionally loves his animals? (It's tough love.)

Or, just as we strive against racism, will we allow experience, reason, and understanding to overcome our prejudice and expand our conception of who is "special"?

EVENTS MAR. 12 – MAR. 18

TUESDAY

(12:00 p.m. – 1:00 p.m.) Artists Beyond the Desk presents Amanda Casale — 14W-111

(4:00 p.m. – 6:00 p.m.) From memory to inspiration: A remembrance of Aaron Swartz — E14-674

WEDNESDAY

(9:00 a.m. – 5:00 p.m.) Irish Fest — Student Center Lobby

(5:30 p.m. – 8:00 p.m.) Innovation Series Event: Big Ideas, Big Solutions — How can we solve more big problems? — 32-123

THURSDAY

(4:00 p.m. – 5:30 p.m.) *The Soul of Anime* book launch with author Ian Condry — E51-149

(6:00 p.m. – 7:30 p.m.) Beyond the 3/11 Touhoku disaster — talks and reception (RSVP at <http://goo.gl/DeTUJ>) — W20-407

FRIDAY

(11:30 a.m. – 1:00 p.m.) Johnny Cupcakes@MIT: Retail Entrepreneurship & Building a Cult Brand — E62-262

(7:00 p.m., 10:00 p.m.) LSC shows *Beasts of the Southern Wild* — 26-100

(8:00 p.m. – 9:00 p.m.) Roadkill Buffet Presents: The Sequester Cut The Pope's Budget By One Pope — 6-120

SATURDAY

(7:00 p.m. – 10:00 p.m.) Edgerton Ides of March Party, Roman themed — NW-10

(8:00 p.m. – 10:00 p.m.) MIT Wind Ensemble Concert with Don Byron — Kresge Auditorium

SUNDAY

(4:00 p.m. – 6:00 p.m.) Pianist Yukiko Sekino in recital — 14W-111

(6:00 p.m. – 9:00 p.m.) MIT Muslim Student's Association goodwill baking — McCormick Country Kitchen

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```
File Edit Options Buffers Tools Im-Python Python Help
from new_skills import *
def learnMarketableJobSkills():
    return linux, OSX, javascript, applescript, perl, python, PHP
if self.interest == True:
    print "E-mail join@tech.mit.edu"
----:----F1 joinTechno.py (Python)--L1--Top
```

Correlations from consumer sentiment and trends

Varian talks about making predictions using data from search queries, consumer surveys

Varian, from Page 1

which generally peaks "three days before the term paper is due."

Once the audience was thoroughly entertained, he transitioned to a more practical application of Google Tools. Varian showed that queries about unemployment claims are a good indicator of the unemployment rate and when a recession begins and ends. Google's large data set from searches allows people to build better predictive models that take into account the relationships between different variables. With a linear model, it is "hard to catch the turning point," but with Google's detailed search data, more accurate regressions can be drawn.

In addition, Varian highlighted

how easy it is to collect data with Google Consumer Surveys, noting that he started a consumer survey before dinner about the minimum wage, and after dessert, there were about 700 responses. He claimed that the next best alternative to

The next best alternative to an online survey would be 40 times more expensive.

running an online survey would be roughly 40 times more expensive. In addition, with Google's survey tools, one can see how word changes in the phrasing of questions affect responses. With

these data easily accessible, it "democratizes the whole profession" and has large implications for both businesses and social sciences.

My favorite part of his lecture was when he briefly touched upon how the consumer sentiment, a survey very helpful to economists during the past recession, could be better interpreted. Varian said, "As economists, we don't quite know what the best correlates will be. It's not obvious." Indeed, the consumer sentiment survey contained "fat data" which has many predictors but few observations. Varian showed how Google's private data on queries related to financial planning, investing, business news, utilities, and search engines helped make more sense of the raw data of consumer sentiment. It was amazing to see the

regression line on each successive lecture slide became better fitted towards the data points as Google's search data was added. With more data, better predictive models can be built.

With more data, better predictive models can be built.

After 40 minutes speaking, Varian wrapped up his presentation by concluding that "the challenge that is facing the economics profession is how do we combine public and private data in a useful way." Needless to say, most of the attendees were sold on his presentation about big data.

For the last 20 minutes, Varian took questions. Most of the ques-

tions that were raised concerned the possibilities of big data and the "how" behind Google's business. Some even inquired about the prices that Google charges to use its tools. I eventually got up the courage to ask whether or not there was a particular set of data he particularly enjoyed researching. Varian simply couldn't decide, stating "there's a lot of things you can look at that are both interesting and instructive." He suggested that he thought looking at trends across countries was a more intriguing topic.

The lecture was a great opportunity for students interested in economics, information, and business. His presentation highlighted the bright future of big data and illuminated what it means to be better at forecasting the future.

MacVicar Day 2013

**REIMAGINING THE MIT CLASSROOM:
EXPERIMENTS WITH DIGITAL LEARNING**



Friday, March 15, 2013, Bartos Theater, E15-070

Symposium: 2:00 – 4:00 PM

Reception: 4:00 – 5:00 PM



Sponsored by The MacVicar Faculty Fellows Program and the Office of Faculty Support

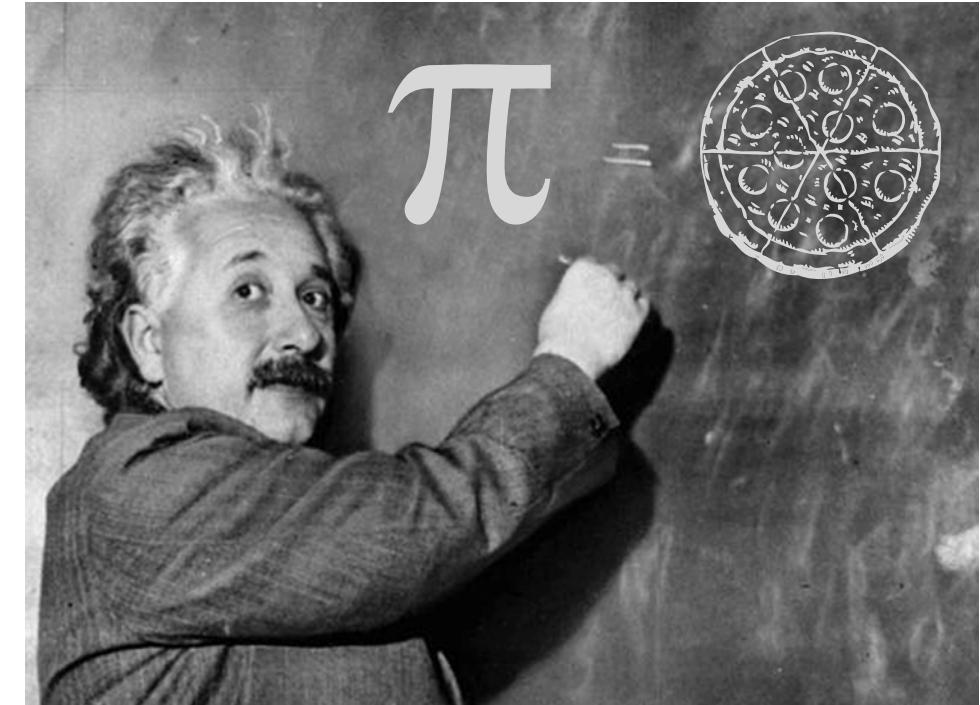
The UA Presidential / Vice Presidential Debate

**Cory Hernandez
&
John Kongoletos**

**Sidhanth Rao
&
Devin Cornish**

**7 p.m. Thursday, March 14
Student Center, First Floor**

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3.14
11:00am to 1:59pm



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Program Summary MIT undergraduate students conduct scientific and engineering research at Army Science and Technology Centers under the direction of Army Scientists, from June to August. The Army host and student determine the exact starting and finishing dates.

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To view internship opportunities and learn more about this program, please register at the website:

<https://isn.mit.edu/internship/index.php>

If you have questions about this program, or experience difficulty using the website, please contact Marlissa McDaniels, at the ISN: mmcd@mit.edu, 617.324.4700.

*The Army Lab provides the intern's salary, which typically ranges from \$2280/month to \$2864/month depending on class year. Under certain circumstances the ISN can provide the intern with a supplement of up to \$1500 to defray costs of local accommodations and travel.

The mission of the MIT Institute for Soldier Nanotechnologies is to dramatically improve the protection and survivability of the Soldier and first responder through basic research and collaboration with the Army and industry.

Swartz investigation updates

Swartz, from Page 1

a three, four, potentially five month range. That is what the government said specifically to Mr. Swartz. Those offers were rejected.

Cornyn did not give up, pressing Holder further: "Does it strike you as odd that the government would indict someone for crimes that would carry penalties for up to 35 years in prison and million dollar fines, and then offer him a three of four month prison sentence?"

"No, I don't look at what necessarily was charged as much as what was offered in terms of how the case might've been re-

solved," replied Holder.

In January, Swartz lawyer Elliot Peters told the *Boston Globe* that the six-month plea deal was rejected because he and Swartz wanted a trial where prosecutors would have to publicly justify the charges.

MIT has been staying silent on the Swartz prosecution, pending the completion of Prof. Hal Abelson PhD '73's analysis of the Institute's involvement in the situation, which started when Swartz first began downloading JSTOR articles in September 2010. Swartz committed suicide in New York City on Jan. 11.

—Ethan A. Solomon

Innovation in surgery, optogenetics

Prizes, from Page 1

in brain and cognitive sciences and the Media Lab, won the 2013 Grete Lundbeck European Brain Research Prize yesterday. The award is one million Euros.

The prize is given by the Lundbeck Foundation of Denmark for outstanding brain research.

Boyden received his work for pioneering optogenetics, a technology he developed to control brain activity using light.

Lemelson Prize

Nikolai Begg, a PhD student in Mechanical Engineering, just won the Lemelson-MIT student prize for his work making surgical procedures less invasive. He will receive \$30,000 to continue

his work in "puncture access procedures."

Many minimally invasive surgeries begin with a small puncture made by the surgeon. Despite these incisions being minimal, they often plunge through more tissue than needed — a result of the surgeon's human reaction time. Begg has invented a force-sensing device with a blade that retracts within 1/100 of a second after passing through skin tissue. This creation minimizes damage, and can scale to a variety of medical puncture devices.

Begg shares the Lemelson-MIT Collegiate Student Prize with two students from the University of Illinois at Urbana-Champaign and Rensselaer Polytechnic Institute, respectively.

—Jessica J. Pourian

Solution to Sudoku

from page 7

3	8	2	5	6	4	9	7	1
9	7	4	8	1	3	5	6	2
6	1	5	9	2	7	4	3	8
1	4	9	2	7	8	3	5	6
7	5	6	3	9	1	8	2	4
8	2	3	4	5	6	1	9	7
5	6	7	1	8	9	2	4	3
4	9	1	6	3	2	7	8	5
2	3	8	7	4	5	6	1	9

Solution to Techdoku

from page 7

5	3	4	1	6	2
2	6	1	4	3	5
3	1	2	5	4	6
4	2	3	6	5	1
6	4	5	2	1	3
1	5	6	3	2	4

Solution to Crossword

from page 6

C	A	S	H	E	S	C	A	N	D	A
R	O	T	H	I	R	A	H	O	A	X
A	R	T	I	S	A	N	A	L	B	E
B	R	A	N	F	Y	I	S	T	I	R
B	I	B	S	R	C	R	A	T	B	O
I	D	O	C	H	A	P	E	A	C	E
S	A	Y	W	H	E	N	A	T	N	I
W	E	E	G	O						
S	Q	U	I	R	T	S	F	R	A	G
P	U	N	Z	A	P	P	E	R	E	A
A	I	L	O	H	H	E	N	R	R	B
C	Z	A	R	E	W	E	M	I	L	E
E	N	T	I	C	E	S	T	P	E	R
S	O	C	L	O	S	E	U	I	T	O
S	H	E	E	T	S	E	P	E	L	S



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Harvard comments on search of email accounts

By Richard Perez-Pena
and Jess Bidgood
THE NEW YORK TIMES

CAMBRIDGE, Mass. — Harvard University and its president on Monday made their first public comments on the university's searching of staff members' email accounts, and offered a qualified apology for keeping the searches secret from most of the employees involved.

The episode has angered faculty members and refocused attention on Harvard's largest cheating scandal in memory, which involved a take-home final exam in a government class last spring. After an investigation, about 70 students were forced to take a leave of absence.

In September, when confidential information about cheating cases appeared in news reports, administrators ordered searches of the email accounts of 16 resident deans, to find the source of the leaks.

In an online statement posted Monday morning, university officials acknowledged the searches and explained their reasoning. The statement eased the concerns of some faculty members but did not alleviate them completely, and professors said they expected that email privacy would be the topic of a full-throated discussion at the

next faculty meeting, in early April.

In her first comment on the matter, Harvard's president, Drew Gilpin Faust, said that she did not know about the searches at the time, but that having been apprised, "I feel very comfortable that great care was taken to safeguard the privacy of all concerned."

Hart and other professors said the searches would prompt them to conduct more business through private email accounts.

Faculty responses revealed a gap between expectations in academia, where privacy is often seen as integral to academic freedom, and the corporate world, in which employees are often told to assume that workplace emails are not private. Some professors wondered aloud whether they had been naive to think that things would be different at a university, and said they were forced to re-examine assumptions about confidentiality.

"It's disturbing because I don't know what it means about whether they could look at my own email," said Oliver Hart, an economics professor. "We need to have a discussion and a better understanding of the policy."

He and other professors said the searches would prompt them

to conduct more business through private email accounts outside of Harvard's reach.

Most professors who agreed to discuss the matter on Monday insisted on anonymity, not wanting to run afoul of the administration. Several of them, conceding that the university had a legal right to con-

duct the searches, said the problem was, as one put it, that "we never thought they would — we never thought about it at all, and we probably should have."

One leak last year involved an email from the university's Administrative Board to resident deans, offering guidance on how to advise students accused of cheating. Some have questioned why such a minor breach prompted an investigation. But the statement posted Monday, attributed to Michael D. Smith, dean of the faculty of arts and sciences, and Evelyn M. Hammonds, dean of Harvard College, said administrators were more troubled by another leak, recounting closed-door discussions by the Administrative Board.

"The disclosure of the docu-

ment and nearly word-for-word disclosure of a confidential board conversation led to concerns that other information — especially student information we have a duty to protect as private — was at risk," the deans wrote.

Resident deans live among students in Harvard's residential houses and act as student advisers, and they are also lecturers, meaning that they teach courses but are not on a tenure track to professorship. Each one generally has a personal Harvard email account and one specifically for the job of resident dean.

The deans' statement on Monday emphasized that the search was conducted only of the resident dean accounts, not personal ones, and only for the subject line on each message, to determine whether the confidential email had been forwarded.

The search determined that one resident dean had forwarded the email to two students who were accused of cheating and had sought the dean's advice.

Hammonds and Smith wrote that the resident dean who had forwarded the messages did so in good faith and was not punished. The statement did not say whether administrators determined how the email found its way to the news media, or who was responsible for

the other leak, of the Administrative Board's deliberations.

That resident dean and one other were told about the email searches shortly after they took place, administrators said, but the other 14 resident deans were not told until last week, after The Boston Globe inquired about the matter.

They were not told to protect "the privacy of the resident dean who had made an inadvertent error," Hammonds and Smith wrote. "We understand that others may see the situation differently, and we apologize if any resident deans feel our communication at the conclusion of the investigation was insufficient."

On his blog, Michael Mitzenmacher, a computer science professor, wrote that he was satisfied with some parts of the administration's explanation, but "in my opinion, the administration made an error in judgment" in not telling the resident deans of the search.

Wilfried Schmid, a mathematics professor, said he still wanted to know more about what happened. "I certainly get the sense that many of my colleagues will be upset, and so there will be a discussion," he said.

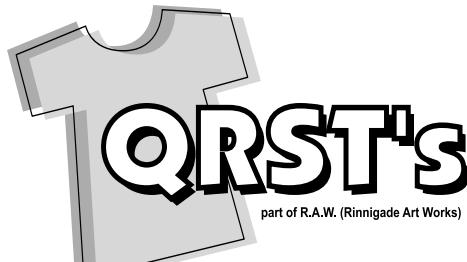
But he urged the faculty not to lose sight of what he considered the bigger issue, the cheating episode itself.

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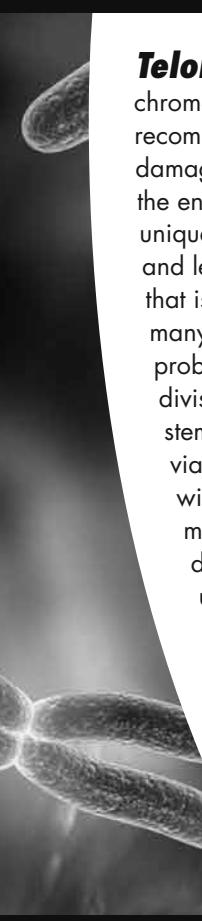
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Dr. Carol W. Greider Telomeres and Telomerase: Past, Present and Future

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For Undergraduates**

**March 15th
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Koch Auditorium**



Telomeres are essential functional components of chromosomes; they protect chromosome ends from recombination and from being recognized as DNA damage. Telomeres shorten with each cell division due to the end replication problem, but are then elongated by the unique DNA polymerase called telomerase. This shortening and lengthening establishes a telomere length equilibrium that is essential for cells to maintain. All cells that undergo many cell divisions have to solve the telomere shortening problem, thus telomerase is required for the extensive cell divisions that occur in cancer cells and in tissue-specific stem cells. Mice that are null for telomerase are initially viable yet they show progressive telomere shortening with progressive generations of inter-breeding. These mice are excellent models to understand human diseases caused by telomere shortening. To fully understand and potentially treat telomere shortening in disease, it will be essential to dissect the mechanism of telomere length equilibrium maintenance.

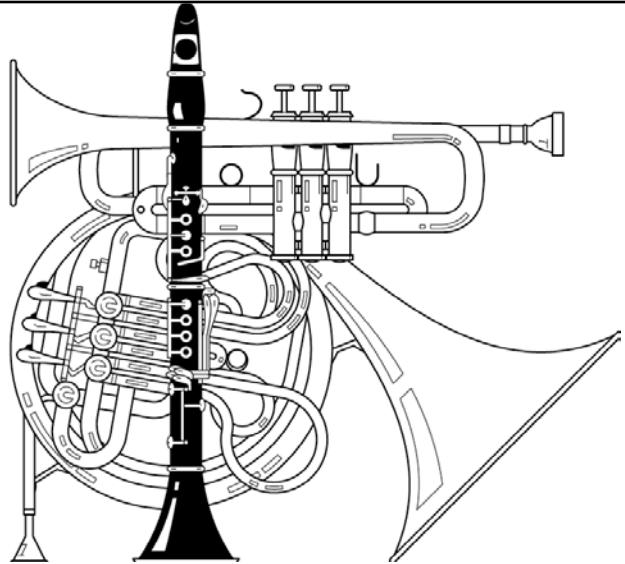
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Dr. Greider received her Ph.D. in 1987 from the UC Berkeley. In 1984, working together with Dr. Elizabeth Blackburn, she discovered telomerase, an enzyme that maintains telomeres, which she first isolated and characterized from the ciliate Tetrahymena. In 1988, Dr. Greider went to Cold Spring Harbor Laboratory where she cloned and characterized the RNA component of telomerase. There, she expanded the focus of her telomere research to include the role of telomere length in cell senescence, cell death and in cancer. In 1997, she moved her laboratory to the Dept. of Molecular Biology and Genetics at The Johns Hopkins University School of Medicine. In 2004 she was appointed as the Daniel Nathans Professor and Director of the Department of Molecular Biology and Genetics. At JHU, Dr. Greider's group continued to study the biochemistry of telomerase and determined the secondary structure of the human telomerase RNA. She has won a number of awards for the work on telomerase, and she shared the Nobel Prize in Physiology or Medicine with Drs. Elizabeth Blackburn and Jack Szostak in 2009.

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Women underrepresented at energy conference

Five percent of attendees were women, sparking discussion on industry gender disparity

By Zain Shauk
THE HOUSTON CHRONICLE

Suddenly, a young woman stood up to talk.

She told the breakfast audience at last week's IHS CERAWeek conference that they were losing money with old technology, that they should consider ways to use better data and cut down on costs.

Later, an executive who missed her introduction asked her if she was an intern or a marketing representative.

Allison Lami Sawyer's title is CEO.

Of the roughly 30 CEOs who came to speak at the testosterone-heavy conference that closed Friday at the Hilton Americas-Houston downtown, only two were women.

It's a fact that was hard to ignore and is representative of the energy industry's largely male executive ranks.

"It's just so strange," said Sawyer, 28, CEO of leak-detection startup Rebellion Photonics. "You just never get over it."

Many attendees are simply not used to seeing women as executives in the energy industry. And that's because there are so few of them.

At a breakfast event hosted at The Grove restaurant in Discovery Green for 55 CEOs in attendance at the conference, just two were women, said Spectra Energy Partners CEO Julie Dill, who was there.

The gender disparity among conference attendees and speakers was the same, she said.

"It was really startling not to see more women on the panels and, quite frankly, when you look around the audience there are not a lot of women," Dill said.

Wrong on her status

Dill, who is 53 and spent 17 years at Shell Oil Co. before joining Spectra, said she was mistaken at the conference for an employee of lower status, something that happens frequently in the industry.

"There have been occasions where they've believed that I was the secretary," Dill said.

Sawyer said that some responsibility for the heavily male executive ranks falls on women, perhaps for not pursuing careers in the industry. And there aren't too many examples

to follow, she added.

"I think there's a problem finding mentors," Sawyer said.

But Dill described a lack of understanding at some companies of how women's family obligations can be incorporated into a high-level career.

Energy companies say they are addressing the issue and have made an effort to hire more women.

But the problem is a structure that may not be conducive to moving women into the executive ranks, Dill said, or to managing their return to the workplace after child-bearing years.

More diversity could generate innovation in the industry, said Kurt Glaubitz, a spokesman for Chevron Corp., which sponsored the IHS

CERAWeek breakfast event where Sawyer spoke.

"The example that she provided is one that demonstrates how we can help to become more efficient in our current operations as we also look over the horizon at new technologies that will foster the fuel of tomorrow," he said.

Glaubitz said Sawyer's selection for Energy Innovation Pioneers breakfast was encouraging and part of a trend of increased women's employment in energy.

"It's a testament to universities and higher education that they are better preparing women in order to take a place within management ranks of industry and we're pleased to see that trend improving," Glaubitz said.

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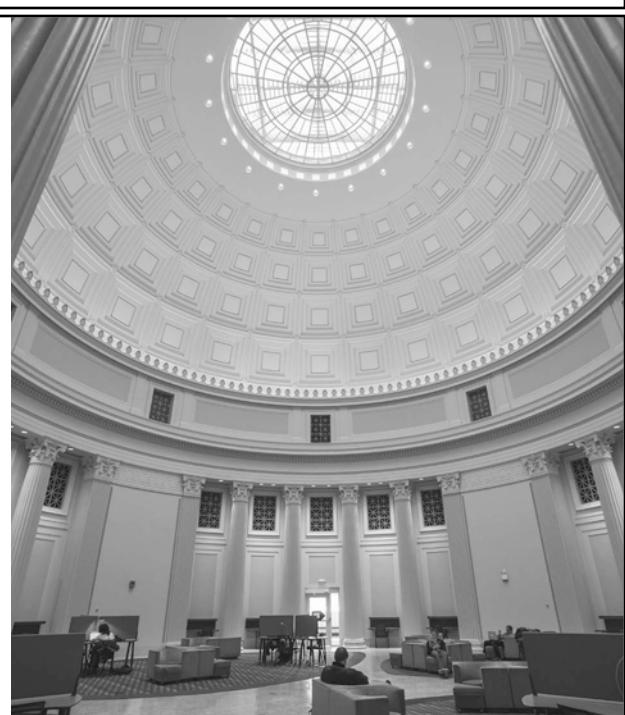
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Track gets 13th at NCAAs

MIT women's track and field concluded their season at the NCAA Championship

By Charlotte Brackett
DAPER STAFF

To conclude the indoor season, seven members of the No. 8 nationally-ranked MIT women's track and field team traveled to North Central College for the NCAA Division III Championship that will take place on Friday and Saturday. The Engineers, who finished in 26th place at last year's NCAA championship, wrapped up the meet tied for 13th place with Keene State College with 15 points. The University of Wisconsin Oshkosh, who led from the very beginning, finished in first place with 56 points.

The Engineers, who finished in 26th place last year, wrapped up the meet tied for 13th place.

At the coaches' and athletes' banquet the night before the meet, Sarah K. Quinn '16 received the New England Region Female Runner of the Year award for her impressive season that included three national quali-

fying performances, a New England title in the 3,000, three MIT varsity records and three MIT freshman records.

Lauren B. Kuntz '13 opened up action for MIT with her impressive performance in the pole vault, clearing the bar at 12-11.50, claiming second place and All-America accolades. The national runner-up, who was seeded in fourth place going into the meet, improved on her previous personal record of 12-07.50 from the New England Championship late last month by a sizeable amount. She earned eight points towards the Engineers' final score.

In the pentathlon, Jaclyn Konopka '14 finished in sixth place with 3,387 points, tying with Elizabeth Crug from Hendrix, earning a spot on the awards podium, All-America accolades and three

points to go towards MIT's score. Last week at the Eastern College Athletic Conference (ECAC) Championship at the New York City Armory, Konopka earned personal best performances in all five events, finishing with 3,432 points.

On the second and final day of competition, Quinn competed in the 5000 meters, finishing in 11th place with a time of 17:28.22. Many of the members of the indoor team will be returning to action in two weeks for the start of the outdoor track and field season at the Jerry Gravel Invitational at Westfield State University on Saturday, March 23.

Lauren B. Kuntz '13 had an impressive performance in the pole vault, claiming 2nd place.

To end the first day, the Distance Medley relay, that consisted of Brooke C. Johnson '13, Cindy Y. Huang '15, Alexandra B. Taylor '14 and Quinn crossed the line with a time of 11:40.38. Their fifth place finish earned them four points.

On the second and final day of competition, Quinn competed in the 5000 meters, finishing in 11th place with a time of 17:28.22.

Many of the members of the indoor team will be returning to action in two weeks for the start of the outdoor track and field season at the Jerry Gravel Invitational at Westfield State University on Saturday, March 23.

Engineers win again

MIT men's tennis remains undefeated after their big win over Bates College

By Charlotte Brackett
DAPER STAFF

A few hours before another snowstorm was set to hit New England on Wednesday afternoon, MIT men's tennis faced Bates College in the J.B. Carr Tennis Bubble, walking away with a 6-3 win. The undefeated Engineers increased their streak to 7-0, the longest they have remained unbeaten in the past few seasons. The Bearcats' record fell to 2-3.

The match got off to a rocky start when Edwin M. Zhang '14 and Curtis L. Wu '13 fell 8-1 to Pierre Planche and Timmy Berg in the No. 1 position of doubles and Matthew T. Skalak '13 and Larry Pang '13 were defeated by Henry Lee and Matt Bettles, 8-6, in the second spot. Eugene S. Oh '15 and Kevin Wang '16 picked up an 8-5 win at No. 3 spot against Ben Bogard and Dylan Reffe to end doubles.

Trailing 2-1 going into singles, the Engineers soon took over the lead with Zhang's win over Bettles, 6-4, 6-2 in the top spot, followed by a well-earned win

by Pang at No. 2. He lost the first set to Berg, 7-6, but came from behind to win the next one, 7-6, and clinched the win with a 6-4 victory in the final set. Wang also played three close sets, losing the first one to Planche, 6-4, before winning the final two, 6-4, 6-4 at No. 3.

Trailing 2-1 going into singles, the Engineers soon took over the lead with Zhang's win over Bettles, 6-4, 6-2.

Continuing singles action, Oh came away with a 6-1, 7-5 win over Henry Lee at No. 4. Bates avoided the singles sweep when Ben Bogard took a 6-2, 7-5 win over Wu in the fifth position. Skalak had an easy 6-2, 6-1 victory over Andrew Salvador at No. 6 to end the day.

MIT returns to action on Saturday, March 9 when it hosts Baruch College at 1:00 p.m.

UPCOMING HOME EVENTS

Wednesday, March 13

Men's Lacrosse vs. St. John's University

4 p.m., Steinbrenner Stadium

Thursday, March 14

Softball vs. Newbury College

3 p.m., Briggs Field

Softball vs. Newbury College

5 p.m., Briggs Field

Women's Lacrosse vs. Lassel College

7 p.m., Steinbrenner Stadium

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